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GB-A-1 443 111  
US-A-3 090 522  
US-A-3 624 791

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## Description

This invention relates to dispensers for sheet material, and in particular dispensers for facial tissues.

Cartons of the kind for dispensing sheet material which is folded on itself into an inverted U-shaped stack are known. The advantages of this kind of carton compared to those which store the sheet material flat, is that they are more compact and require less packaging material and storage space. However, a drawback with cartons of this kind is that the stack of sheet material tends to shift during transportation and use such that the sheets are not properly orientated with the dispensing aperture, giving a potential dispensing problem. British Patent No. 1,186,787 shows a carton in which the stack of tissues is folded on itself. In this arrangement, the end edges of the tissues are flared outwardly so that they bear against the side walls of the carton so as to support the stack and prevent it from shifting.

To help overcome the problem of shifting, it has been proposed to provide an insert within the carton which supports the tissues. However, it is still possible for the insert itself to shift or for the sheets to become displaced from their correct position over the insert. British Patent No. 1,443,111 shows a carton having an inverted Y-shaped insert over which the stack of sheets is folded. The insert causes the sheets to flare out so that edges of the tissues bear against the side walls of the carton.

United States Patent No. 3243079 shows a carton having a W-shaped insert wherein the lateral uprights of the W lie against the side walls of the carton, and wherein the sheets are folded over the central inverted V of the insert and are thus flared out so that the edges of the tissues bear against the lateral uprights of the insert.

An object of the present invention is to provide a carton having an insert which improves the dispensing properties of the carton and which substantially reduces the shifting of the tissues in the carton during handling and transportation and which is itself prevented from being displaced.

According to the present invention there is provided a dispenser for dispensing sheet material from a stack of sheet material, comprising a carton having a base wall, side walls and a top wall, an aperture, in said top wall through which the sheet material is dispensed, and support means disposed within the carton comprising a central member projecting substantially vertically upwardly from the said base wall over which the stack of sheet material is folded in the form of a symmetrical inverted U such that the top sheet of the stack is presented to the aperture in the carton, characterised in that the support means further comprises two wall members, for supporting the end edges of the folded sheet material, extending outwardly and upwardly from either side of the central member, at an angle, thereto, and locating means locating the support means in position in the carton.

In this way the sheet material is supported in position over the central member which is itself prevented from any substantial shifting within the carton, so that the sheet material is always presented to the aperture for extraction.

The whole end edge of each end of the stack may be supported since the angle of the two wall members can be varied to match the angle of the end edge of the stack according to the bulk of the sheet material used.

Preferably the said locating means comprises two members which project substantially horizontally from either side of the central member, along the base wall, to one of the said opposite side walls respectively.

In this way the central member and the two members for supporting the end edges of the stack are kept in position within the carton without the necessity for additional fixing. Other locating means may be provided, for example the wall members may be provided with tabs which are glued inside the carton.

Advantageously a plastic film member may be provided, extending across the aperture in the top wall, the said membrane having either an elongate overlapping opening or a slit depending on the nature of the substrate or the fold configuration used to permit extraction of the sheet material from the carton.

The plastic membrane helps to prevent the sheet material becoming soiled and may also assist in the dispensing action.

Advantageously the support means is a removable insert which is formed integrally from a cardboard blank.

The insert used can thereby be changed according to the bulk and length of the sheet material used and the dimensions of the carton.

Suitably the sheet material may be either interleaved, tab-tied or longitudinally folded.

The invention will now be described by way of example and with reference to the accompanying drawings in which:

Figure 1 is a perspective view of the dispenser according to the present invention;

Figure 2 is a cross-sectional side view of the dispenser along the line II-II of Figure 1,

Figure 3 is a view of the dispenser from above showing the plastic film membrane;

Figure 4 shows the blank for the cardboard insert.

As shown in Figures 1 and 2, a dispenser for tissues 10 comprises a carton 20 having a base wall 25, side walls 30, 31, 32, 33, a top wall 35 and a cardboard insert 40.

The top wall 35 is provided with an aperture 45 through which the tissues 10 can be extracted. A plastic film membrane 47 extends across the aperture 45 as shown in Figures 1, 2 and 3. This membrane 47 has an elongate opening 50 which is originally sealed for example by perforations so that it can be opened by a user by tearing.

As will be described with reference to Figure 4, the insert 40 is cut and folded from a single piece of cardboard, and comprises a folded spine forming

a central member 55 projecting vertically upwards centrally from the base wall 25, and two support members 60a, 60b projecting upwards from the central member 55 at an angle A thereto. The upper edges of the support members 60a, 60b rest against the side walls 30 and 32 of the carton, and the insert also includes base members 65a, 65b extending from the central member 55 horizontally along the base wall 25 respectively to the side walls 30 and 32. The configuration of the insert, with the outer edges of base members 65a, 65b and support members 60a, 60b engaging the side walls of the carton, ensures a relatively rigid assembly which does not require the presence of tissues for support and which will not collapse during transit or use.

Although the spine 55 is shown as being vertical, it may be substantially vertical and comprise an inverted V-shape, the central member 55 and the support members 60a and 60b thus combining to form an inverted W-configuration.

The tissues 10 are folded over the central member 55 in the form of a symmetrical inverted U, so that the uppermost tissue 70 is presented to the aperture 45. The end edges 75 of the tissues 10 are supported by the support members 60a, 60b. The height of the central member 55 should be not more than half the length of tissues 10, and preferably be slightly less than half the length of the tissues 10. The angle A is dependent on the bulk of the tissue 10 used, the sheet count, the ply makeup and the fold configuration. A suitable angle would lie between 45° and 65°.

The tissues 10 of the stack are either interleaved, tab-tied or longitudinally folded as is in itself known. In this way as the top tissue 70 is extracted the next tissue is pulled partially through the aperture 45 so that it can be grasped by a subsequent user.

In order that the first tissue of a new box can be easily grasped, the top sheet of a complete stack is preferably folded over.

Figure 4 shows the blank 80 of the cardboard insert 40 before it is assembled.

To assemble the insert 40, the blank 80 is cut along lines A', A'', B', B'', and C', C''. It is then folded along line D and, in the opposite direction, along lines E between X'—Y' and X''—Y'', and to a lesser extent along lines E between Y'—Y' and Y''—Y''.

The length of the cuts A', C', A'' and C'' are half the width of walls 31 or 33, although this may vary to take into account the board thickness and the clearance required during assembly.

The stack of tissues 10 can then be folded over the central member 55 and the assembly placed inside the carton 20, where it is retained in position by abutment between edges B', B'' of panels 65a, 65b and side walls 30, 32.

## Claims

1. A dispenser for dispensing sheet material from a stack (10) of sheet material, comprising a carton (20) having a base wall (25), side walls (30,

31, 32, 33) and a top wall (35), an aperture (45), in said top wall through which the sheet material is dispensed, and support means (40) disposed within the carton comprising a central member (55) projecting substantially vertically upwardly from the said base wall over which the stack of sheet material is folded in the form of a symmetrical inverted U such that the top sheet of the stack is presented to the aperture in the carton, characterised in that the support means (40) further comprises two wall members (60a, 60b), for supporting the end edges of the folded sheet material, extending outwardly and upwardly from either side of the central member (55) at an angle (A), thereto, and locating means (65a, 65b) locating the support means in position in the carton.

2. A dispenser according to Claim 1, wherein said wall members (60a, 60b) extend from the base wall (25) of the carton to opposite side walls (30, 32) thereof, and the angle (A) between the base wall and the wall members lies between 45° and 65°.

3. A dispenser according to Claim 1 or Claim 2, wherein said locating means comprises two members (65a, 65b) which project substantially horizontally from either side of the central member (55), along the base wall (25), to one of the said opposite side walls (30, 32) respectively.

4. A dispenser according to any of the preceding claims wherein a plastic film membrane (47) is provided, extending across the aperture (45) in the top wall, the said membrane having an elongate opening (50) to permit extraction of the sheet material from the carton.

5. A dispenser according to any of the preceding claims wherein the support means comprises a removable insert (40).

6. A dispenser according to Claim 4, wherein the insert (40) is formed integrally from a cardboard blank.

## Patentansprüche

1. Ausgabevorrichtung für die Ausgabe von Blattmaterial von einem Stapel (10) von Blattmaterial, mit einem Karton (20) mit einer Bodenwand (25), Seitenwänden (30, 31, 32, 33) und einer Oberwand (35), einer Öffnung (45) in der besagten Oberwand, durch die das Blattmaterial ausgegeben wird, und innerhalb des Kartons angeordneten Tragmitteln (40) mit einem im wesentlichen von der besagten Bodenwand senkrecht nach oben hervorragenden Mittelelement (55), über das der Stapel Blattmaterial so in Form eines symmetrischen umgekehrten U's gefaltet wird, dass das oberste Blatt des Stapels an der Öffnung im Karton angeboten wird, dadurch gekennzeichnet, dass das Tragmittel (40) weiterhin zwei Wandelemente (60a, 60b) zum Tragen der Endkanten des gefalteten Blattmaterials umfasst, die sich von beiden Seiten des Mittelelements (55) im Winkel (A) dazu nach aussen und oben erstrecken, und das Tragmittel in Position im Karton haltende Haltemittel (65a, 65b).

2. Ausgabevorrichtung nach Anspruch 1, da-

durch gekennzeichnet, dass sich die besagten Wandelemente (60a, 60b) von der Bodenwand (25) des Kartons zu dessen gegenüberliegenden Seitenwänden (30, 32) erstrecken und der Winkel (A) zwischen der Bodenwand und den Wandelementen zwischen 45° und 65° beträgt.

3. Ausgabevorrichtung nach Anspruch 1 oder Anspruch 2, dadurch gekennzeichnet, dass das besagte Haltemittel zwei Elemente (65a, 65b) umfasst, die sich jeweils im wesentlichen horizontal von beiden Seiten des Mittelelements (55) entlang der Bodenwand (25) auf eine der besagten gegenüberliegenden Seitenwände (30, 32) hin erstrecken.

4. Ausgabevorrichtung nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, dass eine sich über die Öffnung (45) in der Oberwand erstreckende Kunststoff-Filmmembran vorgesehen ist, die eine längliche Öffnung (50) besitzt, um das Herausnehmen des Blattmaterials aus dem Karton zu gestatten.

5. Ausgabevorrichtung nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, dass das Tragmittel einen herausnehmbaren Einsatz (40) umfasst.

6. Ausgabevorrichtung nach Anspruch 4, dadurch gekennzeichnet, dass der Einsatz (40) einstückig aus einem Kartonstück gebildet wird.

#### Revendications

1. Distributeur pour distribuer du matériau en feuilles à partir d'une pile (10) de matériau en feuilles, comprenant un carton (20) comportant une paroi de fond (25), des parois latérales (30, 31, 32, 33) et une paroi supérieure (35), une ouverture (45), dans la paroi supérieure, par laquelle le matériau en feuilles est distribué, et un élément de support (40) disposé à l'intérieur du carton et comprenant un élément médian (55) qui s'étend en substance verticalement vers le haut à partir

de la paroi de fond et par-dessus lequel la pile de matériau en feuilles est pliée sous la forme d'un U inversé symétrique tel que la feuille supérieure de la pile soit présentée à l'ouverture prévue dans le carton, caractérisé en ce que l'élément de support (40) comporte, en outre, deux plaques (60a, 60b) destinées à supporter les bords d'extrémité du matériau en feuilles plié qui s'étendent vers l'extérieur et vers le haut de part et d'autre de l'élément médian (55) sous un angle (A) par rapport à celui-ci, et des organes positionneurs (65a, 65b) qui positionnent l'élément de support en place dans le carton.

2. Distributeur suivant la revendication 1, dans lequel les plaques (60a, 60b) vont de la paroi de fond (25) du carton jusqu'aux parois latérales opposées (30, 32) de celui-ci et l'angle (A) entre la paroi de fond et les plaques est compris entre 45 et 65°.

3. Distributeur suivant la revendication 1 ou 2, dans lequel les organes positionneurs comprennent deux organes (65a, 65b) qui s'étendent en substance horizontalement de chaque côté de l'élément médian (55), le long de la paroi de fond (25), chacun jusqu'à une des parois latérales opposées (30, 32).

4. Distributeur suivant l'une quelconque des revendications précédentes, dans lequel une membrane pelliculaire en matière plastique (47) est prévue et s'étend en travers de l'ouverture (45) de la paroi supérieure, cette membrane comportant une longue ouverture (50) pour permettre l'extraction du matériau en feuilles du carton.

5. Distributeur suivant l'une quelconque des revendications précédentes, dans lequel l'élément de support est un élément inséré amovible (40).

6. Distributeur suivant la revendication 4, dans lequel l'élément inséré (40) est formé à partir d'un flan en carton et est d'une pièce.

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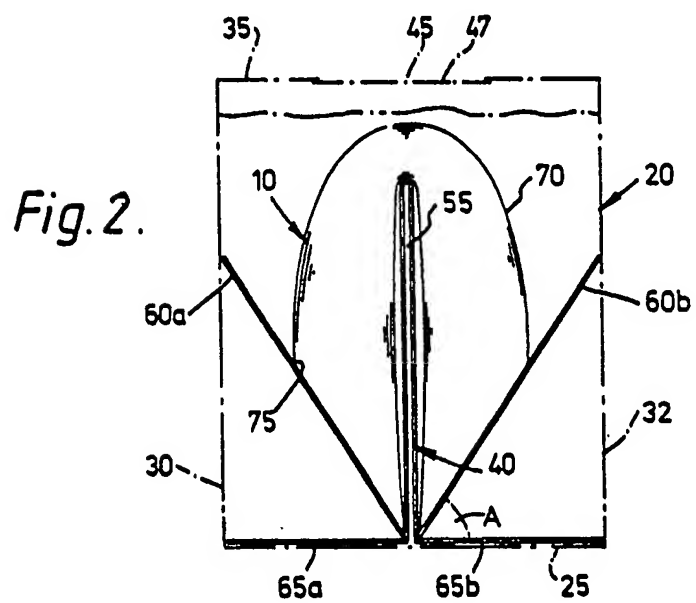
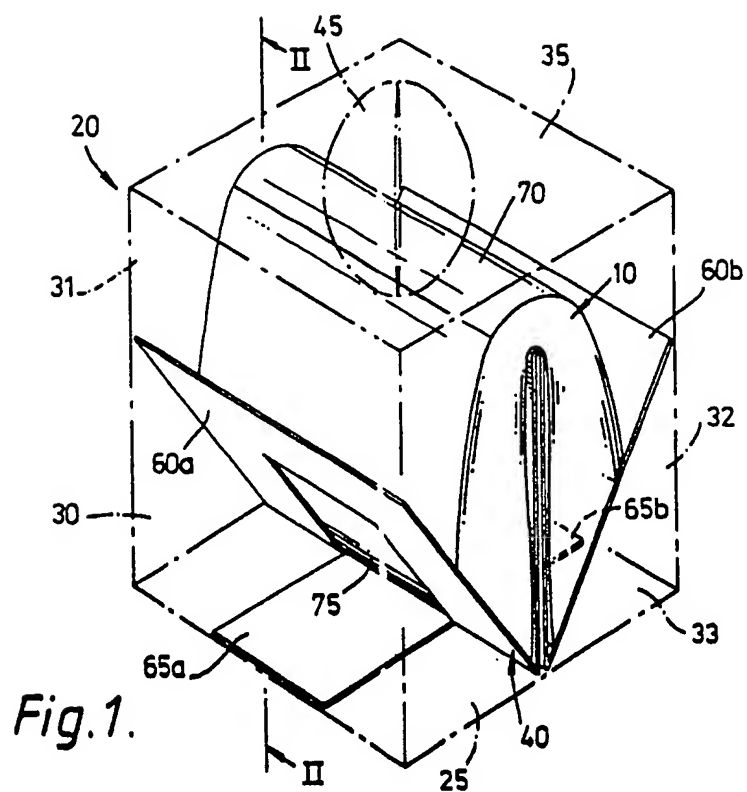
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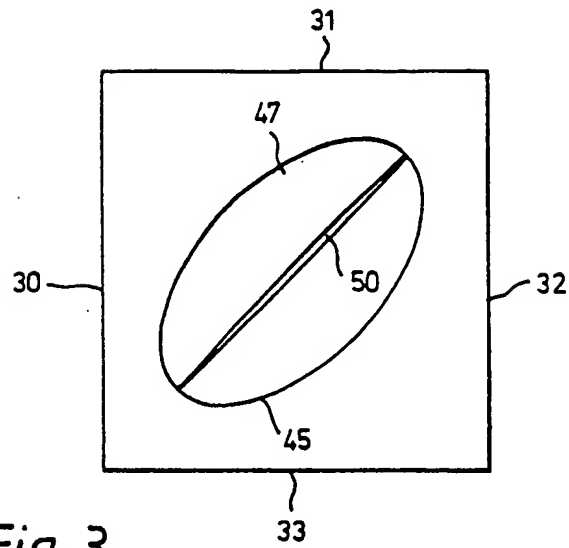


Fig. 3.

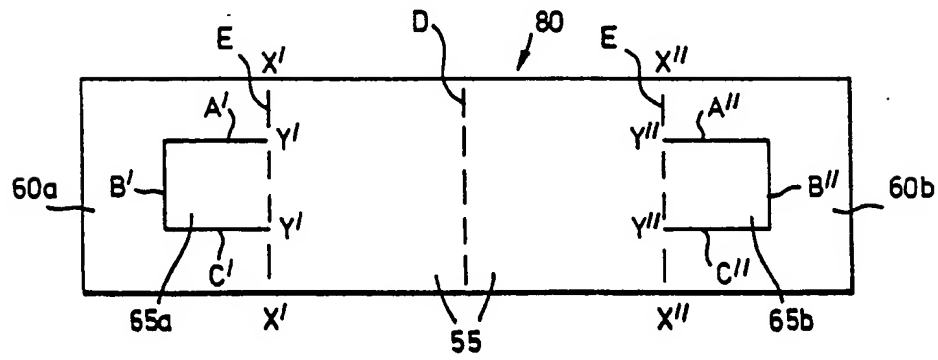


Fig. 4.